



PTO/SB/21 (02-04)

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**TRANSMITTAL
FORM**

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Total Number of Pages in This Submission

Application Number 10/691,353

Filing Date October 22, 2003

First Named Inventor KRYLIQK et al.

Art Unit 2879

Examiner Name

Attorney Docket Number 5853-415

ENCLOSURES (Check all that apply)

- | | | |
|--|---|---|
| <input type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance communication to Technology Center (TC) |
| <input type="checkbox"/> Fee Attached | <input type="checkbox"/> Licensing-related Papers | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences |
| <input type="checkbox"/> Amendment/Reply | <input type="checkbox"/> Petition | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Power of Attorney, Revocation | <input type="checkbox"/> Status Letter |
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| <input checked="" type="checkbox"/> Information Disclosure Statement | <input type="checkbox"/> Request for Refund | |
| <input type="checkbox"/> Certified Copy of Priority Document(s) | <input type="checkbox"/> CD, Number of CD(s) _____ | |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application | | |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | | |

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENTFirm or Individual name Neil R. Jetter
AKERMAN SENTERFITT

Signature

Date April 28, 2004

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Signature

Date April 28, 2004

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: KRYLIOUK et al.

Application No.: 10/691,353

Examiner:

Date Filed: October 22, 2003

Group: 2879

For: GAN GROWTH ON SI USING ZNO BUFFER LAYER

CERTIFICATE UNDER 37 CFR 1.8(a)

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Commissioner for Patents
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Alexandria, VA 22313-1450

Date: April 28, 2004

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to the Duty to Disclose under 37 C.F.R. §1.56, Applicants hereby disclose information that may be relevant to the Examiner's consideration of the above-identified application and the patentability of its claims.

In accordance with Rules 56, 97, and 98 of the Rules of Practice in Patent Cases (37 C.F.R. §§ 1.56, 1.97, and 1.98), Form PTO/SB/08A&B and copies of references cited therein are submitted for consideration by the Examiner. While the references provided in this Information Disclosure Statement may be material to patentability pursuant to 37 C.F.R. § 1.56, it is not intended to constitute an admission that any reference referred to herein is prior art for this invention unless specially designated as such. Also, in accordance with 37 C.F.R. §1.97(g),

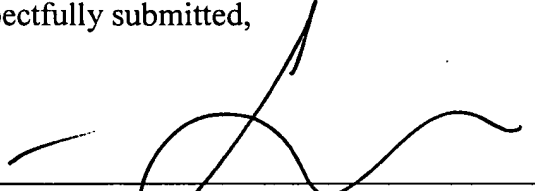
{WP177094;1}

In re Application of: KRYLIOUK et al.
Application No.: 10/691,353
Filed: October 22, 2003
Group Art Unit: 2879
For: GAN GROWTH ON SI USING ZNO BUFFER LAYER

the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists.

This Information Disclosure Statement is being filed before the issuance of a first office action on the merits of the application (37 C.F.R. 1.97(b)(3)); therefore, no fee is believed to be due. However, if any fee is due, the Commissioner is authorized to charge any such fee and any additional fees due or credit any overpayment to Deposit Account No. 50-0951.

Respectfully submitted,



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Docket No. 5853-415

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/691,353
		Filing Date	October 22, 2003
		First Named Inventor	Kryliouk et al.
		Art Unit	2879
Examiner Name			
Sheet 1	of 2	Attorney Docket Number	5853-415

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		PEARTON et al., "GaN: Processing, defects, and devices," Journal of Applied Physics, 86:1-78, 1999.	
		PEARTON et al., "Fabrication and performance of GaN electronic devices," Materials Science and Engineering: R: Reports, 30:1-137, 2000.	
		KIM et al., "Growth of high-quality GaN on Si(111) substrate by ultrahigh vacuum chemical vapor deposition," Applied Physics Letters, 78:2858-2860, 2001.	
		KROST et al., "GaN-Based Devices on Si," Phys. Stat. Sol., 194:361-375, 2002.	
		WANG et al., "Growth of hexagonal GaN on Si(111) coated with a thin flat SiC buffer layer," Applied Physics Letters, 77:1846-1848, 2000.	
		ZAMIR, "The effect of AlN buffer layer on GaN grown on (111)-oriented Si substrates by MOCVD," Journal of Crystal Growth, 218:181-190, 2000.	
		UEDA et al., "Vapor phase epitaxy growth of GaN on pulsed laser deposited ZnO buffer layer," Journal of Crystal Growth, 187:340-346, 1998.	
		GU et al., "Role of interfacial compound formation associated with the use of ZnO buffers layers in the hydride vapor phase epitaxy of GaN," Applied Physics Letters, 76:3454-3456, 2000.	
		MOLNAR et al., "Growth of gallium nitride by hydride vapor-phase epitaxy," Journal of Crystal Growth, 178:147-156, 1997.	
		DETHPROHM et al., "Hydride vapor phase epitaxial growth of a high quality GaN film using a ZnO buffer layer," Appl. Phys. Lett., 61:2688-2690, 1992.	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/691,353
Filing Date	October 22, 2003
First Named Inventor	Kryliouk et al.
Art Unit	2879
Examiner Name	
Attorney Docket Number	5853-415

Sheet

2

of

2

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		STRITTMATTER et al., "LP-MOCVD growth of GaN on silicon substrates-comparison between A1As and ZnO nucleation layers," Materials Science and Engineering, 59:29-32, 1999.	
		LEE et al., "The Application of a Low Temperature GaN Buffer Layer to Thick GaN Film Growth on ZnO/Si Substrate," Phys. Stat. Sol., 176:583-587, 1999.	
		DEHOFF, R., "Thermodynamics in Materials Science," McGraw Hill, 326-327, 1993.	
		MOLNAR et al., "GALLIUM NITRIDE THICK FILMS GROWN BY HYDRIDE VAPOR PHASE EPITAXY," Mat. Res. Soc. Symp., 423:221-226, 1996.	

Examiner Signature		Date Considered	
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